



# Thermal Aerosol Generator

## MODEL 3990-02

3990-02 is a thermal and high capacity aerosol generator. It has an inner heating element can quickly transform the liquid aerosol reagent into a vapor state, which is sent out by inert gas ( $N_2$ ,  $Co_2$ ) and other gases, and the vapor is rapidly cooled at the outlet to generate scattered aerosol. That will take less than two minutes. Generating the widest aerosol concentration range available, the 3990-02 will be used from cabinets to the most demanding clean room installation.

After the high-efficiency particulate air (HEPA) filter is put into operation, if there is any leakage point or leakage due to insufficient installation, the predetermined purification effect will not be achieved, and the high-efficiency particulate air filter must be tested for leakage. Due to the low concentration of air dust in the upstream of the tested high-efficiency particulate air filter, it is necessary to supplement the dust with an aerosol generator to meet the test conditions. Using aerosol concentration test instruments, such as aerosol photometer, to test the concentration of suspended particles in the upstream of the high-efficiency particulate air filter and conduct uniform scanning test in the downstream, so as to know the leakage rate of the tested high-efficiency particulate air filter, judge whether it leaks and determine the leakage point for repair reference.



### ■ Applications

- Testing leakage rate for HEPA filter
- Nuclear facilities and fuel
- Pharmaceutical industries and electronic industries
- Medical operating rooms and clean rooms
- Biosafety cabinets and clean benches
- Food processing and scientific experiments

### ■ Key Features & Benefits

- 2.4 inch true color display screen, which can monitor the inner gas circuit pressure and heating zone temperature in real time;
- Flow Range: 500~70,000 cfm
- Instant heating system, the heating time shall be less than two minutes
- The oil storage space has been increased by 60% compared with similar products to keep generating dust constantly
- The mechanical liquid level gauge displays the oil quantity, making it more intuitive to observe the liquid level
- Kinds of reagents for option: PAO, DOP...
- Applicable to different air conditioning flow rates

# Thermal Aerosol Generator 3990-02



ISO9001, ISO14001 approved  
JQA-2790, JQA-EM1628

## Ideal Portable Solution

3990-02 can output high-concentration aerosols of 500~70,000cfm, and the heating time is less than 2 minutes. It is widely used in the filter leakage test of small air purification units to large clean room air conditioning purification systems. It is recommended to use Laskin-Nozzle aerosol generator 3990-01 or 3990-03 for testing of FFU inside the clean room, biological safety cabinet, clean bench. etc.

## SPECIFICATIONS

|                            |  |
|----------------------------|--|
| Model                      | 3990-02  |
| Generation                 | Thermal vapor  |
| Flow Range                 | 833~119,000m <sup>3</sup> /h (500~70,000cfm)   |
| Concentration Range        | 100mg/m <sup>3</sup> @11,900 m <sup>3</sup> /h (100μg/l@7,000cfm)<br>10mg/m <sup>3</sup> @119,000 m <sup>3</sup> /h (10μg/l@70,000cfm) |
| Warm-Up and Cool-Down Time | less than two minutes.   |
| Particle Distribution      | Meets ANSI/ASME N509/510   |
| Aerosol Reagents           | PAO-4DOS/DESH, Ondina DOP/DEHP mineral oil   |
| Internal Capacity          | 1.8L   |
| Power Source               | 220VAC 50Hz 8A   |
| Input Pressure             | 345kPa (50PSI)   |
| Dimensions                 | 430×140×360mm  |
| Weight                     | 11kg   |

Note: In case of changes in products design, specifications, and parameters, the latest data provided by our company shall prevail without prior notice.

## Flexible Solution

It can produce polydisperse suspended particles that meet industry standards, and the concentration output can be adjusted according to actual needs to meet various application requirements. The 3990-02 can perfectly cooperate with the aerosol photometer 3990 to test the leakage rate of the HEPA filter, which is convenient for the identification and quantification of the leak point. The reference concentration range for repair can be 10~100ug/L, but different flows have been specific.

## Rugged Design

The 3990-02 features a stainless-steel shell, which will not be deformed due to excessive pressure and is easy to clean. Large-capacity cavity, only need to adjust to the appropriate temperature and pressure to work.

## Hose Adapter Kit

An optional hose adapter kit (hose not included), used to introduce aerosol remotely, connects easily to the standard outlet collar.



## 2.4 inch LED

Real-time monitoring and display of internal gas path pressure and heating zone temperature, clear and accurate.



## Service & Training & Maintenance @GTI

- Product calibration, maintenance, fault repair
- Excellent after-sales service by partners certified by GTI service system training
- Attentive service, complete parts production, timely repair

**GTI PRECISION INSTRUMENT (SHENYANG) CO., LTD.**

[www.gti-test.com](http://www.gti-test.com)  
[www.gti-instruments.com](http://www.gti-instruments.com)

No. 56-39 (2212), North Huanghe Avenue, Huanggu District, Shenyang, Liaoning Province, P. R. China 110034.  
Tel: +86-24-81231386 E-mail: [sales@gti-test.com](mailto:sales@gti-test.com)



# Thermal Aerosol Generator 3990-02



ISO9001, ISO14001 approved  
JQA-2790, JQA-EM1628

## Ideal Portable Solution

3990-02 can output high-concentration aerosols of 500~70,000cfm, and the heating time is less than 2 minutes. It is widely used in the filter leakage test of small air purification units to large clean room air conditioning purification systems. It is recommended to use Laskin-Nozzle aerosol generator 3990-01 or 3990-03 for testing of FFU inside the clean room, biological safety cabinet, clean bench. etc.

## SPECIFICATIONS

|                            |  |
|----------------------------|--|
| Model                      | 3990-02  |
| Generation                 | Thermal vapor  |
| Flow Range                 | 833~119,000m <sup>3</sup> /h (500~70,000cfm)   |
| Concentration Range        | 100mg/m <sup>3</sup> @11,900 m <sup>3</sup> /h (100µg/l@7,000cfm)<br>10mg/m <sup>3</sup> @119,000 m <sup>3</sup> /h (10µg/l@70,000cfm) |
| Warm-Up and Cool-Down Time | less than two minutes.   |
| Particle Distribution      | Meets ANSI/ASME N509/510   |
| Aerosol Reagents           | PAO-4DOS/DESH, Ondina DOP/DEHP mineral oil   |
| Internal Capacity          | 1.8L   |
| Power Source               | 220VAC 50Hz 8A   |
| Input Pressure             | 345kPa (50PSI)   |
| Dimensions                 | 430×140×360mm  |
| Weight                     | 11kg   |

Note: In case of changes in products design, specifications, and parameters, the latest data provided by our company shall prevail without prior notice.

## Flexible Solution

It can produce polydisperse suspended particles that meet industry standards, and the concentration output can be adjusted according to actual needs to meet various application requirements. The 3990-02 can perfectly cooperate with the aerosol photometer 3990 to test the leakage rate of the HEPA filter, which is convenient for the identification and quantification of the leak point. The reference concentration range for repair can be 10~100ug/L, but different flows have been specific.

## Rugged Design

The 3990-02 features a stainless-steel shell, which will not be deformed due to excessive pressure and is easy to clean. Large-capacity cavity, only need to adjust to the appropriate temperature and pressure to work.

## Hose Adapter Kit

An optional hose adapter kit (hose not included), used to introduce aerosol remotely, connects easily to the standard outlet collar.



## 2.4 inch LED

Real-time monitoring and display of internal gas path pressure and heating zone temperature, clear and accurate.



## Service & Training & Maintenance @GTI

- Product calibration, maintenance, fault repair
- Excellent after-sales service by partners certified by GTI service system training
- Attentive service, complete parts production, timely repair

## GTI PRECISION INSTRUMENT (SHENYANG) CO., LTD.

Office Address: No. 56-39 (2212), North Huanghe Avenue,  
Hanggu District, Shenyang, Liaoning Province,  
P.R. China 110034;  
Tel: +86-24-81231386  
E-mail: sales@gti-test.com  
Website: www.gti-test.com; www.gti-instruments.com.

